

SEQUENCE LISTING

<110> HIRANO, Toshio
YAMASHITA, Susumu

<120> EMT-Inducing Agents

<130> SPO-128

<140> US 10/584,742

<141> 2006-06-26

<150> PCT/JP2004/019246

<151> 2004-12-22

<150> JP 2003-435122

<151> 2003-12-26

<160> 43

<170> PatentIn version 3.3

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<212> PRT

<213> Danio rerio

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Lys Ser Val Ala Ile Glu Thr Asp Ser Arg Ile Ala Glu Gln Thr Gln
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Gln Arg His Leu Gln Ala Leu Phe Asp Lys Tyr Gly Gln Asn Gly Ser
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Ile Ser Leu Glu Gly Leu Phe Asn Leu Leu Lys Gly Val Gly Leu Asp
100 105 110

Arg Ile Arg Lys Val Met Val His His Pro Gly Asn Ala His Asn His
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Glu Lys Ser Asp Pro Val Pro Lys Ala Gln Pro Asp Pro Ala Ser Gly
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Lys Lys Ser Gln Ser Asp Ala His His Asn Leu Tyr Met Lys Met Asn
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Arg Arg Thr Asn Arg Ser Ala Asp Tyr Asp Phe Thr Gln Asp His Ala
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Ile Val His Glu Asp Glu Asp Glu His Ser Asp His Ser His His His
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Lys His His His His His Asp His Gln His Leu Gln His Pro His
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Val Gly Val Val Leu Ile Pro Leu Met Asn Arg Val Cys Phe Asn Phe
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675 680 685

Leu Val Asp Met Val Pro Glu Met Leu His Asn Asp Ala Ser Glu Ala
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Gly Phe Ser His Tyr Gly Phe Phe Leu Leu Gln Asn Ala Gly Ile Leu
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35 40 45

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Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
65 70 75 80

Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
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Asp His Glu His His Ser Asp His Glu His His Ser Asp His Asn His
115 120 125

Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala Leu Cys Pro Asp His Asp
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Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn Ser Gln Gly Lys Gly Ala
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His Arg Pro Glu His Ala Ser Gly Arg Arg Asn Val Lys Asp Ser Val
165 170 175

Ser Ala Ser Glu Val Thr Ser Thr Val Tyr Asn Thr Val Ser Glu Gly
180 185 190

Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg Pro Gly Lys Leu Phe
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Arg Val Ser Arg Leu Ala Gly Arg Lys Thr Asn Glu Ser Val Ser Glu
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Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser His Gly Met Gly Ile
260 265 270

Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr Leu Cys Pro Ala Ile
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290 295 300

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Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val Glu
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His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Lys Asn
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His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu Glu Glu Val Met
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Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser Gly Leu Ser Thr Ser Val
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Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
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Thr Ser Val Ala Ile Leu Cys Glu Glu Phe Pro His Glu Leu Gly Asp
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Phe Val Ile Leu Leu Asn Ala Gly Met Ser
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Trp Ala Thr Leu Gly Leu Leu Val Ala Gly Leu Gly Gly His Asp Asp				
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ctg cac gac gat ctg caa gag gac ttc cat ggc cac agc cac agg cac				202
Leu His Asp Asp Leu Gln Glu Asp Phe His Gly His Ser His Arg His				
35	40	45		
tca cat gaa gat ttc cac cat ggc cac agc cat gcc cat ggc cat ggc				250
Ser His Glu Asp Phe His His Gly His Ser His Ala His Gly His Gly				
50	55	60	65	
cac act cac gag agc atc tgg cat gga cat acc cac gat cac gac cat				298
His Thr His Glu Ser Ile Trp His Gly His Thr His Asp His Asp His				
70	75	80		
gga cat tca cat gag gat tta cac cat ggc cat agc cat ggc tac tcc				346
Gly His Ser His Glu Asp Leu His His Gly His Ser His Gly Tyr Ser				
85	90	95		
cat gag agc ctc tac cac aga gga cat gga cat gac cat gag cat agc				394
His Glu Ser Leu Tyr His Arg Gly His Gly His Asp His Glu His Ser				
100	105	110		
cat gga ggc tat ggg gag tct ggg gct cca ggc atc aag cag gac ctg				442
His Gly Gly Tyr Gly Glu Ser Gly Ala Pro Gly Ile Lys Gln Asp Leu				
115	120	125		
gat gct gtc act ctc tgg gct tat gca ctg ggg gcc aca gtg ctg atc				490
Asp Ala Val Thr Leu Trp Ala Tyr Ala Leu Gly Ala Thr Val Leu Ile				
130	135	140	145	
tca gca gct cca ttt ttt gtc ctc ttc ctt atc ccc gtg gag tcg aac				538
Ser Ala Ala Pro Phe Phe Val Leu Phe Leu Ile Pro Val Glu Ser Asn				
150	155	160		
tct ccc cgg cat cgc tct cta ctt cag atc ttg ctc agt ttt gct tcc				586
Ser Pro Arg His Arg Ser Leu Leu Gln Ile Leu Leu Ser Phe Ala Ser				
165	170	175		
ggt ggg ctc ctg gga gat gct ttc ctg cac ctc att cct cat gct ctt				634
Gly Gly Leu Leu Gly Asp Ala Phe Leu His Leu Ile Pro His Ala Leu				
180	185	190		

gaa cct cat tct cac cac act ctg gag caa ccc gga cat gga cac tcc	682
Glu Pro His Ser His His Thr Leu Glu Gln Pro Gly His Gly His Ser	
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cac agt ggc cag ggc ccc att ctg tct gtg gga ctg tgg gtt ctc agt	730
His Ser Gly Gln Gly Pro Ile Leu Ser Val Gly Leu Trp Val Leu Ser	
210 215 220 225	
gga att gtt gcc ttt ctt gtc gtg gag aaa ttt gtg aga cat gtg aaa	778
Gly Ile Val Ala Phe Leu Val Val Glu Lys Phe Val Arg His Val Lys	
230 235 240	
gga gga cat ggt cac agt cat gga cat gga cac gct cac agt cat aca	826
Gly Gly His Gly His Ser His Gly His Gly His Ala His Ser His Thr	
245 250 255	
cgt gga agt cat gga cat gga aga caa gag cgt tct acc aag gag aag	874
Arg Gly Ser His Gly His Gly Arg Gln Glu Arg Ser Thr Lys Glu Lys	
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cag agc tca gag gaa gaa aag gaa aca aga ggg gtt cag aag agg	922
Gln Ser Ser Glu Glu Glu Lys Glu Thr Arg Gly Val Gln Lys Arg	
275 280 285	
cga gga ggg agc aca gta ccc aaa gat ggg cca gtg aga cct cag aac	970
Arg Gly Gly Ser Thr Val Pro Lys Asp Gly Pro Val Arg Pro Gln Asn	
290 295 300 305	
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Ala Glu Glu Glu Lys Arg Gly Leu Asp Leu Arg Val Ser Gly Tyr Leu	
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Asn Leu Ala Ala Asp Leu Ala His Asn Phe Thr Asp Gly Leu Ala Ile	
325 330 335	
ggg gct tcc ttt cga ggg ggc cgg gga cta ggg atc ctg acc aca atg	1114
Gly Ala Ser Phe Arg Gly Gly Arg Gly Leu Gly Ile Leu Thr Thr Met	
340 345 350	
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Thr Val Leu Leu His Glu Val Pro His Glu Val Gly Asp Phe Ala Ile	
355 360 365	
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Leu Val Gln Ser Gly Cys Ser Lys Lys Gln Ala Met Arg Leu Gln Leu	
370 375 380 385	
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Leu Thr Ala Val Gly Ala Leu Ala Gly Thr Ala Cys Ala Leu Leu Thr	
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Glu Gly Gly Ala Val Gly Ser Glu Ile Ala Gly Gly Ala Gly Pro Gly	
405 410 415	

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Trp Val Leu Pro Phe Thr Ala Gly Gly Phe Ile Tyr Val Ala Thr Val	
420 425 430	
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Ser Val Leu Pro Glu Leu Leu Arg Glu Ala Ser Pro Leu Gln Ser Leu	
435 440 445	
ctg gag gtg ctg ggg ctg ctg ggg gga gtt atc atg atg gtg ctg att	1450
Leu Glu Val Leu Gly Leu Leu Gly Gly Val Ile Met Met Val Leu Ile	
450 455 460 465	
gcc cac ctt gag tga ggggtggata aactaccctt gccccaaacc tctaccctta	1505
Ala His Leu Glu	
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ggaactgtag cctgggagaa tggttacttt ggcattaggg ccttcaaggg ctggcagtct	1625
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aaaaaa	2110

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Asp Leu His Asp Asp Leu Gln Glu Asp Phe His Gly His Ser His Arg
 35 40 45

His Ser His Glu Asp Phe His His Gly His Ser His Ala His Gly His
50 55 60

Gly His Thr His Glu Ser Ile Trp His Gly His Thr His Asp His Asp
65 70 75 80

His Gly His Ser His Glu Asp Leu His His Gly His Ser His Gly Tyr
85 90 95

Ser His Glu Ser Leu Tyr His Arg Gly His Gly His Asp His Glu His
100 105 110

Ser His Gly Gly Tyr Gly Glu Ser Gly Ala Pro Gly Ile Lys Gln Asp
115 120 125

Leu Asp Ala Val Thr Leu Trp Ala Tyr Ala Leu Gly Ala Thr Val Leu
130 135 140

Ile Ser Ala Ala Pro Phe Phe Val Leu Phe Leu Ile Pro Val Glu Ser
145 150 155 160

Asn Ser Pro Arg His Arg Ser Leu Leu Gln Ile Leu Leu Ser Phe Ala
165 170 175

Ser Gly Gly Leu Leu Gly Asp Ala Phe Leu His Leu Ile Pro His Ala
180 185 190

Leu Glu Pro His Ser His Thr Leu Glu Gln Pro Gly His Gly His
195 200 205

Ser His Ser Gly Gln Gly Pro Ile Leu Ser Val Gly Leu Trp Val Leu
210 215 220

Ser Gly Ile Val Ala Phe Leu Val Val Glu Lys Phe Val Arg His Val
225 230 235 240

Lys Gly Gly His Gly His Ser His Gly His Gly His Ala His Ser His
245 250 255

Thr Arg Gly Ser His Gly His Gly Arg Gln Glu Arg Ser Thr Lys Glu
260 265 270

Lys Gln Ser Ser Glu Glu Glu Lys Glu Thr Arg Gly Val Gln Lys
275 280 285

Arg Arg Gly Gly Ser Thr Val Pro Lys Asp Gly Pro Val Arg Pro Gln
290 295 300

Asn Ala Glu Glu Glu Lys Arg Gly Leu Asp Leu Arg Val Ser Gly Tyr
305 310 315 320

Leu Asn Leu Ala Ala Asp Leu Ala His Asn Phe Thr Asp Gly Leu Ala
325 330 335

Ile Gly Ala Ser Phe Arg Gly Gly Arg Gly Leu Gly Ile Leu Thr Thr
340 345 350

Met Thr Val Leu Leu His Glu Val Pro His Glu Val Gly Asp Phe Ala
355 360 365

Ile Leu Val Gln Ser Gly Cys Ser Lys Lys Gln Ala Met Arg Leu Gln
370 375 380

Leu Leu Thr Ala Val Gly Ala Leu Ala Gly Thr Ala Cys Ala Leu Leu
385 390 395 400

Thr Glu Gly Gly Ala Val Gly Ser Glu Ile Ala Gly Gly Ala Gly Pro
405 410 415

Gly Trp Val Leu Pro Phe Thr Ala Gly Gly Phe Ile Tyr Val Ala Thr
420 425 430

Val Ser Val Leu Pro Glu Leu Leu Arg Glu Ala Ser Pro Leu Gln Ser
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ctt gat cat aac aac act cac cat ttt cat aat gat tcc att act ccc	687
Leu Asp His Asn Asn Thr His His Phe His Asn Asp Ser Ile Thr Pro	
190 195 200	
agt gag cgt ggg gag cct agc aat gaa cct tca aca gag acc aat aaa	735
Ser Glu Arg Gly Glu Pro Ser Asn Glu Pro Ser Thr Glu Thr Asn Lys	
205 210 215	
acc cag gaa caa tct gat gtt aaa cta ccg aaa gga aag agg aag aaa	783
Thr Gln Glu Gln Ser Asp Val Lys Leu Pro Lys Gly Lys Arg Lys Lys	
220 225 230 235	
aaa ggg agg aaa agt aat gaa aat tct gag gtt att aca cca ggt ttt	831
Lys Gly Arg Lys Ser Asn Glu Asn Ser Glu Val Ile Thr Pro Gly Phe	
240 245 250	
ccc cct aac cat gat cag ggt gaa cag tat gag cat aat ccg gtc cac	879
Pro Pro Asn His Asp Gln Gly Glu Gln Tyr Glu His Asn Arg Val His	
255 260 265	
aaa cct gat cgt gta cat aac cca ggt cat tct cat gta cat ctt cca	927
Lys Pro Asp Arg Val His Asn Pro Gly His Ser His Val His Leu Pro	
270 275 280	
gaa cgt aat ggt cat gat cct ggt cgt gga cac caa gat ctt gat cct	975
Glu Arg Asn Gly His Asp Pro Gly Arg Gly His Gln Asp Leu Asp Pro	
285 290 295	
gat aat gaa ggt gaa ctt cga cat act aga aag aga gaa gca cca cat	1023
Asp Asn Glu Gly Glu Leu Arg His Thr Arg Lys Arg Glu Ala Pro His	
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Val Lys Asn Asn Ala Ile Ile Ser Leu Arg Lys Asp Leu Asn Glu Asp	
320 325 330	
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Asp His His Glu Cys Leu Asn Val Thr Gln Leu Leu Lys Tyr Tyr	
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Gly His Gly Ala Asn Ser Pro Ile Ser Thr Asp Leu Phe Thr Tyr Leu	
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tgc cct gca ttg tta tat caa atc gac agc aga ctt tgt att gag cat	1215
Cys Pro Ala Leu Leu Tyr Gln Ile Asp Ser Arg Leu Cys Ile Glu His	
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Phe Asp Lys Leu Leu Val Glu Asp Ile Asn Lys Asp Lys Asn Leu Val	
380 385 390 395	

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Asp Leu His Ala Ala His Asn His His Gly Glu Asn Lys Thr Val	
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Leu Arg Lys His Asn His Gln Trp His His Lys His Ser His His Ser	
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His Gly Pro Cys His Ser Gly Ser Asp Leu Lys Glu Thr Gly Ile Ala	
655 660 665	
aat ata gcc tgg atg gtg atc atg ggg gat ggc atc cac aac ttc agt	2127
Asn Ile Ala Trp Met Val Ile Met Gly Asp Gly Ile His Asn Phe Ser	
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Asp Gly Leu Ala Ile Gly Ala Ala Phe Ser Ala Gly Leu Thr Gly Gly	
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atc agt act tct ata gcc gtc ttc tgt cat gaa ctg cca cat gaa tta	2223
Ile Ser Thr Ser Ile Ala Val Phe Cys His Glu Leu Pro His Glu Leu	
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gga gat ttt gca gtt ctt ctt aaa gca ggc atg act gta aag caa gca	2271
Gly Asp Phe Ala Val Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala	
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Phe Ala Val Thr Ala Gly Met Phe Leu Tyr Val Ala Leu Val Asp Met	
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Leu Pro Glu Met Leu His Gly Asp Gly Asp Asn Glu Glu His Gly Phe	
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Cys Pro Val Gly Gln Phe Ile Leu Gln Asn Leu Gly Leu Leu Phe Gly	
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 35 40 45

Ser Lys Phe Ser Lys Gln Ala Ala Glu Asn Glu Lys Lys Tyr Tyr Ile
 50 55 60

Glu Lys Leu Phe Glu Arg Tyr Gly Glu Asn Gly Arg Leu Ser Phe Phe
65 70 75 80

Gly Leu Glu Lys Leu Leu Thr Asn Leu Gly Leu Gly Glu Arg Lys Val
85 90 95

Val Glu Ile Asn His Glu Asp Leu Gly His Asp His Val Ser His Leu
100 105 110

Asp Ile Leu Ala Val Gln Glu Gly Lys His Phe His Ser His Asn His
115 120 125

Gln His Ser His Asn His Leu Asn Ser Glu Asn Gln Thr Val Thr Ser
130 135 140

Val Ser Thr Lys Arg Asn His Lys Cys Asp Pro Glu Lys Glu Thr Val
145 150 155 160

Glu Val Ser Val Lys Ser Asp Asp Lys His Met His Asp His Asn His
165 170 175

Arg Leu Arg His His His Arg Leu His His His Leu Asp His Asn Asn
180 185 190

Thr His His Phe His Asn Asp Ser Ile Thr Pro Ser Glu Arg Gly Glu
195 200 205

Pro Ser Asn Glu Pro Ser Thr Glu Thr Asn Lys Thr Gln Glu Gln Ser
210 215 220

Asp Val Lys Leu Pro Lys Gly Lys Arg Lys Lys Lys Gly Arg Lys Ser
225 230 235 240

Asn Glu Asn Ser Glu Val Ile Thr Pro Gly Phe Pro Pro Asn His Asp
245 250 255

Gln Gly Glu Gln Tyr Glu His Asn Arg Val His Lys Pro Asp Arg Val
260 265 270

His Asn Pro Gly His Ser His Val His Leu Pro Glu Arg Asn Gly His
275 280 285

Asp Pro Gly Arg Gly His Gln Asp Leu Asp Pro Asp Asn Glu Gly Glu
290 295 300

Leu Arg His Thr Arg Lys Arg Glu Ala Pro His Val Lys Asn Asn Ala
305 310 315 320

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325 330 335

Cys Leu Asn Val Thr Gln Leu Leu Lys Tyr Tyr Gly His Gly Ala Asn
340 345 350

Ser Pro Ile Ser Thr Asp Leu Phe Thr Tyr Leu Cys Pro Ala Leu Leu
355 360 365

Tyr Gln Ile Asp Ser Arg Leu Cys Ile Glu His Phe Asp Lys Leu Leu
370 375 380

Val Glu Asp Ile Asn Lys Asp Lys Asn Leu Val Pro Glu Asp Glu Ala
385 390 395 400

Asn Ile Gly Ala Ser Ala Trp Ile Cys Gly Ile Ile Ser Ile Thr Val
405 410 415

Ile Ser Leu Leu Ser Leu Leu Gly Val Ile Leu Val Pro Ile Ile Asn
420 425 430

Gln Gly Cys Phe Lys Phe Leu Leu Thr Phe Leu Val Ala Leu Ala Val
435 440 445

Gly Thr Met Ser Gly Asp Ala Leu Leu His Leu Leu Pro His Ser Gln
450 455 460

Gly Gly His Asp His Ser His Gln His Ala His Gly His Gly His Ser
465 470 475 480

His Gly His Glu Ser Asn Lys Phe Leu Glu Glu Tyr Asp Ala Val Leu
485 490 495

Lys Gly Leu Val Ala Leu Gly Gly Ile Tyr Leu Leu Phe Ile Ile Glu
500 505 510

His Cys Ile Arg Met Phe Lys His Tyr Lys Gln Gln Arg Gly Lys Gln
515 520 525

Lys Trp Phe Met Lys Gln Asn Thr Glu Glu Ser Thr Ile Gly Arg Lys
530 535 540

Leu Ser Asp His Lys Leu Asn Asn Thr Pro Asp Ser Asp Trp Leu Gln
545 550 555 560

Leu Lys Pro Leu Ala Gly Thr Asp Asp Ser Val Val Ser Glu Asp Arg
565 570 575

Leu Asn Glu Thr Glu Leu Thr Asp Leu Glu Gly Gln Gln Glu Ser Pro
580 585 590

Pro Lys Asn Tyr Leu Cys Ile Glu Glu Glu Lys Ile Ile Asp His Ser
595 600 605

His Ser Asp Gly Leu His Thr Ile His Glu His Asp Leu His Ala Ala
610 615 620

Ala His Asn His His Gly Glu Asn Lys Thr Val Leu Arg Lys His Asn
625 630 635 640

His Gln Trp His His Lys His Ser His His Ser His Gly Pro Cys His
645 650 655

Ser Gly Ser Asp Leu Lys Glu Thr Gly Ile Ala Asn Ile Ala Trp Met
660 665 670

Val Ile Met Gly Asp Gly Ile His Asn Phe Ser Asp Gly Leu Ala Ile
675 680 685

Gly Ala Ala Phe Ser Ala Gly Leu Thr Gly Gly Ile Ser Thr Ser Ile
690 695 700

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
705 710 715 720

Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Ile Val Tyr Asn Leu
725 730 735

Leu Ser Ala Met Met Ala Tyr Ile Gly Met Leu Ile Gly Thr Ala Val
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Gly Gln Tyr Ala Asn Asn Ile Thr Leu Trp Ile Phe Ala Val Thr Ala
 755 760 765

Gly Met Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Glu Met Leu
 770 775 780

His Gly Asp Gly Asp Asn Glu Glu His Gly Phe Cys Pro Val Gly Gln
 785 790 795 800

Phe Ile Leu Gln Asn Leu Gly Leu Leu Phe Gly Phe Ala Ile Met Leu
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gcggagacga aggcgcga atg gctt agg aag tta tct gta atc ttg atc ctg 170
 Met Ala Arg Lys Leu Ser Val Ile Leu Ile Leu
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acc ttt gcc ctc tct gtc aca aat ccc ctt cat gaa cta aaa gca gct 218
 Thr Phe Ala Leu Ser Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala
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gct ttc ccc cag acc act gag aaa att agt ccg aat tgg gaa tct ggc 266
 Ala Phe Pro Gln Thr Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly
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att aat gtt gac ttg gca att tcc aca cgg caa tat cat cta caa cag 314
 Ile Asn Val Asp Leu Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln
 45 50 55

ctt ttc tac cgc tat gga gaa aat aat tct ttg tca gtt gaa ggg ttc	362
Leu Phe Tyr Arg Tyr Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe	
60 65 70 75	
aga aaa tta ctt caa aat ata ggc ata gat aag att aaa aga atc cat	410
Arg Lys Leu Leu Gln Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His	
80 85 90	
ata cac cat gac cac cat cac tca gac cac gag cat cac tca gac	458
Ile His His Asp His Asp His Ser Asp His Glu His His Ser Asp	
95 100 105	
cat gag cgt cac tca gac cat gag cat cac tca gac cac gag cat cac	506
His Glu Arg His Ser Asp His Glu His His Ser Asp His Glu His His	
110 115 120	
tct gac cat aat cat gct gct tct ggt aaa aat aag cga aaa gct ctt	554
Ser Asp His Asn His Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala Leu	
125 130 135	
tgc cca gac cat gac tca gat agt tca ggt aaa gat cct aga aac agc	602
Cys Pro Asp His Asp Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn Ser	
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cag ggg aaa gga gct cac cga cca gaa cat gcc agt ggt aga agg aat	650
Gln Gly Lys Gly Ala His Arg Pro Glu His Ala Ser Gly Arg Arg Asn	
160 165 170	
gtc aag gac agt gtt agt gct agt gaa gtg acc tca act gtg tac aac	698
Val Lys Asp Ser Val Ser Ala Ser Glu Val Thr Ser Thr Val Tyr Asn	
175 180 185	
act gtc tct gaa gga act cac ttt cta gag aca ata gag act cca aga	746
Thr Val Ser Glu Gly Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg	
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cct gga aaa ctc ttc ccc aaa gat gta agc agc tcc act cca ccc agt	794
Pro Gly Lys Leu Phe Pro Lys Asp Val Ser Ser Ser Thr Pro Pro Ser	
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gtc aca tca aag agc cgg gtg agc cgg ctg gct ggt agg aaa aca aat	842
Val Thr Ser Lys Ser Arg Val Ser Arg Leu Ala Gly Arg Lys Thr Asn	
220 225 230 235	
gaa tct gtg agt gag ccc cga aaa ggc ttt atg tat tcc aga aac aca	890
Glu Ser Val Ser Glu Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn Thr	
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aat gaa aat cct cag gag tgt ttc aat gca tca aag cta ctg aca tct	938
Asn Glu Asn Pro Gln Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser	
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cat ggc atg ggc atc cag gtt ccg ctg aat gca aca gag ttc aac tat	986
His Gly Met Gly Ile Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr	
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Leu Cys Pro Ala Ile Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu Ile	
285 290 295	
cat aca agt gaa aag aag gct gaa atc cct cca aag acc tat tca tta	1082
His Thr Ser Glu Lys Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser Leu	
300 305 310 315	
caa ata gcc tgg gtt ggt ttt ata gcc att tcc atc atc agt ttc	1130
Gln Ile Ala Trp Val Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser Phe	
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ctg tct ctg ctg ggg gtt atc tta gtg cct ctc atg aat cgg gtg ttt	1178
Leu Ser Leu Leu Gly Val Ile Leu Val Pro Leu Met Asn Arg Val Phe	
335 340 345	
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Phe Lys Phe Leu Leu Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu	
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agt ggt gat gct ttt tta cac ctt ctt cca cat tct cat gca agt cac	1274
Ser Gly Asp Ala Phe Leu His Leu Leu Pro His Ser His Ala Ser His	
365 370 375	
cac cat agt cat agc cat gaa gaa cca gca atg gaa atg aaa aga gga	1322
His His Ser His Ser His Glu Glu Pro Ala Met Glu Met Lys Arg Gly	
380 385 390 395	
cca ctt ttc agt cat ctg tct tct caa aac ata gaa gaa agt gcc tat	1370
Pro Leu Phe Ser His Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala Tyr	
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Phe Asp Ser Thr Trp Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe	
415 420 425	
atg ttt ctt gtt gaa cat gtc ctc aca ttg atc aaa caa ttt aaa gat	1466
Met Phe Leu Val Glu His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp	
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aag aag aaa aag aat cag aag aaa cct gaa aat gat gat gat gtg gag	1514
Lys Lys Lys Asn Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu	
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Ile Lys Lys Gln Leu Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn Glu	
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Glu Lys Val Asp Thr Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala Asp	
480 485 490	
tca caa gag ccc tcc cac ttt gat tct cag cag cct gca gtc ttg gaa	1658
Ser Gln Glu Pro Ser His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu	
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Glu Glu Glu Val Met Ile Ala His Ala His Pro Gln Glu Val Tyr Asn	
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gaa tat gta ccc aga ggg tgc aag aat aaa tgc cat tca cat ttc cac	1754
Glu Tyr Val Pro Arg Gly Cys Lys Asn Lys Cys His Ser His Phe His	
525 530 535	
gat aca ctc ggc cag tca gac gat ctc att cac cac cat cat gac tac	1802
Asp Thr Leu Gly Gln Ser Asp Asp Leu Ile His His His Asp Tyr	
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cat cat att ctc cat cat cac cac caa aac cac cat cct cac agt	1850
His His Ile Leu His His His His Gln Asn His His Pro His Ser	
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His Ser Gln Arg Tyr Ser Arg Glu Glu Leu Lys Asp Ala Gly Val Ala	
575 580 585	
act ttg gcc tgg atg gtg ata atg ggt gat ggc ctg cac aat ttc agc	1946
Thr Leu Ala Trp Met Val Ile Met Gly Asp Gly Leu His Asn Phe Ser	
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gat ggc cta gca att ggt gct gct ttt act gaa ggc tta tca agt ggt	1994
Asp Gly Leu Ala Ile Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser Gly	
605 610 615	
tta agt act tct gtt gct gtg ttc tgt cat gag ttg cct cat gaa tta	2042
Leu Ser Thr Ser Val Ala Val Phe Cys His Glu Leu Pro His Glu Leu	
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ggt gac ttt gct gtt cta cta aag gct ggc atg acc gtt aag cag gct	2090
Gly Asp Phe Ala Val Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala	
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Val Leu Tyr Asn Ala Leu Ser Ala Met Leu Ala Tyr Leu Gly Met Ala	
655 660 665	
aca gga att ttc att ggt cat tat gct gaa aat gtt tct atg tgg ata	2186
Thr Gly Ile Phe Ile Gly His Tyr Ala Glu Asn Val Ser Met Trp Ile	
670 675 680	
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Phe Ala Leu Thr Ala Gly Leu Phe Met Tyr Val Ala Leu Val Asp Met	
685 690 695	
gta cct gaa atg ctg cac aat gat gct agt gac cat gga tgt agc cgc	2282
Val Pro Glu Met Leu His Asn Asp Ala Ser Asp His Gly Cys Ser Arg	
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Trp Gly Tyr Phe Phe Leu Gln Asn Ala Gly Met Leu Leu Gly Phe Gly	
720 725 730	

att atg tta ctt att tcc ata ttt gaa cat aaa atc gtg ttt cgt ata	2378
Ile Met Leu Leu Ile Ser Ile Phe Glu His Lys Ile Val Phe Arg Ile	
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Asn Phe	
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 35 40 45

Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
 50 55 60

Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
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Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
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Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
 100 105 110

Asp His Glu His His Ser Asp His Glu His His Ser Asp His Asn His
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Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala Leu Cys Pro Asp His Asp
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Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn Ser Gln Gly Lys Gly Ala
145 150 155 160

His Arg Pro Glu His Ala Ser Gly Arg Arg Asn Val Lys Asp Ser Val
165 170 175

Ser Ala Ser Glu Val Thr Ser Thr Val Tyr Asn Thr Val Ser Glu Gly
180 185 190

Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg Pro Gly Lys Leu Phe
195 200 205

Pro Lys Asp Val Ser Ser Ser Thr Pro Pro Ser Val Thr Ser Lys Ser
210 215 220

Arg Val Ser Arg Leu Ala Gly Arg Lys Thr Asn Glu Ser Val Ser Glu
225 230 235 240

Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn Thr Asn Glu Asn Pro Gln
245 250 255

Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser His Gly Met Gly Ile
260 265 270

Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr Leu Cys Pro Ala Ile
275 280 285

Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu Ile His Thr Ser Glu Lys
290 295 300

Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser Leu Gln Ile Ala Trp Val
305 310 315 320

Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser Phe Leu Ser Leu Leu Gly
325 330 335

Val Ile Leu Val Pro Leu Met Asn Arg Val Phe Phe Lys Phe Leu Leu
340 345 350

Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu Ser Gly Asp Ala Phe
355 360 365

Leu His Leu Leu Pro His Ser His Ala Ser His His His Ser His Ser
370 375 380

His Glu Glu Pro Ala Met Glu Met Lys Arg Gly Pro Leu Phe Ser His
385 390 395 400

Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala Tyr Phe Asp Ser Thr Trp
405 410 415

Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val Glu
420 425 430

His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Asn
435 440 445

Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu Ile Lys Lys Gln Leu
450 455 460

Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn Glu Glu Lys Val Asp Thr
465 470 475 480

Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala Asp Ser Gln Glu Pro Ser
485 490 495

His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu Glu Glu Val Met
500 505 510

Ile Ala His Ala His Pro Gln Glu Val Tyr Asn Glu Tyr Val Pro Arg
515 520 525

Gly Cys Lys Asn Lys Cys His Ser His Phe His Asp Thr Leu Gly Gln
530 535 540

Ser Asp Asp Leu Ile His His His Asp Tyr His His Ile Leu His
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His His His His Gln Asn His His Pro His Ser His Ser Gln Arg Tyr
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 580 585 590

Val Ile Met Gly Asp Gly Leu His Asn Phe Ser Asp Gly Leu Ala Ile
 595 600 605

Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser Gly Leu Ser Thr Ser Val
 610 615 620

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
 625 630 635 640

Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Val Leu Tyr Asn Ala
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 660 665 670

Gly His Tyr Ala Glu Asn Val Ser Met Trp Ile Phe Ala Leu Thr Ala
 675 680 685

Gly Leu Phe Met Tyr Val Ala Leu Val Asp Met Val Pro Glu Met Leu
 690 695 700

His Asn Asp Ala Ser Asp His Gly Cys Ser Arg Trp Gly Tyr Phe Phe
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Leu Gln Asn Ala Gly Met Leu Leu Gly Phe Gly Ile Met Leu Leu Ile
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gct cta ttc cag ctc atc cca gag gca ttt ggt ttc aac cct ctg gaa	797
Ala Leu Phe Gln Leu Ile Pro Glu Ala Phe Gly Phe Asn Pro Leu Glu	
205 210 215	
gat tat tat gtc tcc aag tct gca gtg gtg ttt ggg ggc ttt tat ctt	845
Asp Tyr Tyr Val Ser Lys Ser Ala Val Val Phe Gly Gly Phe Tyr Leu	
220 225 230	
tcc ttt ttc aca gag aag atc ttg aag att ctt ctt aag cag aaa aat	893
Phe Phe Phe Thr Glu Lys Ile Leu Lys Ile Leu Leu Lys Gln Lys Asn	
235 240 245	
gag cat cat cat gga cac agc cat tat gcc tct gag tcg ctt ccc tcc	941
Glu His His His Gly His Ser His Tyr Ala Ser Glu Ser Leu Pro Ser	
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Lys Lys Asp Gln Glu Glu Gly Val Met Glu Lys Leu Gln Asn Gly Asp	
270 275 280	
ctg gac cac atg att cct cag cac tgc agc agt gag ctg gac ggc aag	1037
Leu Asp His Met Ile Pro Gln His Cys Ser Ser Glu Leu Asp Gly Lys	
285 290 295	
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Ala Pro Met Val Asp Glu Lys Val Ile Val Gly Ser Leu Ser Val Gln	
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gac ctg cag gct tcc cag agt gct tgc tac tgg ctg aaa ggt gtc cgc	1133
Asp Leu Gln Ala Ser Gln Ser Ala Cys Tyr Trp Leu Lys Gly Val Arg	
315 320 325	
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Tyr Ser Asp Ile Gly Thr Leu Ala Trp Met Ile Thr Leu Ser Asp Gly	
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Leu His Asn Phe Ile Asp Gly Leu Ala Ile Gly Ala Ser Phe Thr Val	
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Ser Val Phe Gln Gly Ile Ser Thr Ser Val Ala Ile Leu Cys Glu Glu	
365 370 375	
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Phe Pro Arg Glu Leu Gly Asp Phe Val Ile Leu Leu Asn Ala Gly Met	
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Ser Ile Gln Gln Ala Leu Phe Phe Asn Phe Leu Ser Ala Cys Cys Cys	
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Tyr Leu Gly Leu Ala Phe Gly Ile Leu Ala Gly Ser His Phe Ser Ala	
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Asn Trp Ile Phe Ala Leu Ala Gly Gly Met Phe Leu Tyr Ile Ser Leu	
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Lys Gly Ser Ile Leu Ile Pro Phe Ile Ile Gln Asn Leu Gly Leu Leu	
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accagctcct attaataagt tagcaaggaa agtgtatgtc acgtgcagga acagtgaggc	4185
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cctcttccaa	agagatggca	atatgctggg	catctacttt	aaaacaaagt	tgtctgattt	4425
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acagtatttt	tttaaataac	tcaggtgtat	gagaagaaat	tagaaaagaa	aattaactta	4545
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<400> 32

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							20			25				30	

Leu	Gly	Ala	Pro	Ala	Ile	Ser	Ala	Ala	Ser	Phe	Leu	Gln	Asp	Leu	Ile
						35			40				45		

His	Arg	Tyr	Gly	Glu	Gly	Asp	Ser	Pro	Thr	Leu	Gln	Gln	Leu	Lys	Ala
						50			55			60			

Leu	Leu	Asn	His	Leu	Asp	Val	Gly	Val	Gly	Arg	Gly	Asn	Val	Thr	Gln
						65			70			75			80

His	Val	Gln	Gly	His	Arg	Asn	Leu	Ser	Thr	Cys	Phe	Ser	Ser	Gly	Asp
							85		90				95		

Leu	Phe	Thr	Ala	His	Asn	Phe	Ser	Glu	Gln	Ser	Arg	Ile	Gly	Ser	Ser
							100		105			110			

Glu	Leu	Gln	Glu	Phe	Cys	Pro	Thr	Ile	Leu	Gln	Gln	Leu	Asp	Ser	Arg
								115		120			125		

Ala	Cys	Thr	Ser	Glu	Asn	Gln	Glu	Asn	Glu	Asn	Glu	Gln	Thr	Glu	
							130		135			140			

Glu Gly Arg Pro Ser Ala Val Glu Val Trp Gly Phe Gly Phe Leu Ser
145 150 155 160

Val Ser Leu Ile Asn Leu Ala Ser Leu Leu Gly Val Leu Val Leu Pro
165 170 175

Cys Thr Glu Lys Ala Phe Phe Ser Arg Val Leu Thr Tyr Phe Ile Ala
180 185 190

Leu Ser Ile Gly Thr Leu Leu Ser Asn Ala Leu Phe Gln Leu Ile Pro
195 200 205

Glu Ala Phe Gly Phe Asn Pro Leu Glu Asp Tyr Tyr Val Ser Lys Ser
210 215 220

Ala Val Val Phe Gly Gly Phe Tyr Leu Phe Phe Thr Glu Lys Ile
225 230 235 240

Leu Lys Ile Leu Leu Lys Gln Lys Asn Glu His His His Gly His Ser
245 250 255

His Tyr Ala Ser Glu Ser Leu Pro Ser Lys Lys Asp Gln Glu Glu Gly
260 265 270

Val Met Glu Lys Leu Gln Asn Gly Asp Leu Asp His Met Ile Pro Gln
275 280 285

His Cys Ser Ser Glu Leu Asp Gly Lys Ala Pro Met Val Asp Glu Lys
290 295 300

Val Ile Val Gly Ser Leu Ser Val Gln Asp Leu Gln Ala Ser Gln Ser
305 310 315 320

Ala Cys Tyr Trp Leu Lys Gly Val Arg Tyr Ser Asp Ile Gly Thr Leu
325 330 335

Ala Trp Met Ile Thr Leu Ser Asp Gly Leu His Asn Phe Ile Asp Gly
340 345 350

Leu Ala Ile Gly Ala Ser Phe Thr Val Ser Val Phe Gln Gly Ile Ser
355 360 365

Thr Ser Val Ala Ile Leu Cys Glu Glu Phe Pro Arg Glu Leu Gly Asp
 370 375 380

Phe Val Ile Leu Leu Asn Ala Gly Met Ser Ile Gln Gln Ala Leu Phe
 385 390 395 400

Phe Asn Phe Leu Ser Ala Cys Cys Tyr Leu Gly Leu Ala Phe Gly
 405 410 415

Ile Leu Ala Gly Ser His Phe Ser Ala Asn Trp Ile Phe Ala Leu Ala
 420 425 430

Gly Gly Met Phe Leu Tyr Ile Ser Leu Ala Asp Met Phe Pro Glu Met
 435 440 445

Asn Glu Val Cys Gln Glu Asp Glu Arg Lys Gly Ser Ile Leu Ile Pro
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Val Leu Thr Met Tyr Ser Gly Gln Ile Gln Ile Gly
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 Met Ala Ser Leu Val Ser Leu Glu Leu
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ggg ctg ctt ctg gct gtg ctg gtg acg gcg acg gcg tcc ccg cct 161
 Gly Leu Leu Leu Ala Val Leu Val Val Thr Ala Thr Ala Ser Pro Pro
 10 15 20 25

gct ggt ctg ctg agc ctg ctc acc tct ggc cag ggc gct ctg gat caa 209
 Ala Gly Leu Leu Ser Leu Leu Thr Ser Gly Gln Gly Ala Leu Asp Gln
 30 35 40

gag gct ctg ggc ggc ctg tta aat acg ctg gcg gac cgt gtg cac tgc	257
Glu Ala Leu Gly Gly Leu Leu Asn Thr Leu Ala Asp Arg Val His Cys	
45 50 55	
acc aac ggg ccg tgt gga aag tgc ctg tct gtg gag gac gcc ctg ggc	305
Thr Asn Gly Pro Cys Gly Lys Cys Leu Ser Val Glu Asp Ala Leu Gly	
60 65 70	
ctg ggc gag cct gag ggg tca ggg ctg ccc ccg ggc ccg gtc ctg gag	353
Leu Gly Glu Pro Glu Gly Ser Gly Leu Pro Pro Gly Pro Val Leu Glu	
75 80 85	
gcc agg tac gtc gcc cgc ctc agt gcc gcc gtc ctg tac ctc agc	401
Ala Arg Tyr Val Ala Arg Leu Ser Ala Ala Val Leu Tyr Leu Ser	
90 95 100 105	
aac ccc gag ggc acc tgt gag gac act cgg gct ggc ctc tgg gcc tct	449
Asn Pro Glu Gly Thr Cys Glu Asp Thr Arg Ala Gly Leu Trp Ala Ser	
110 115 120	
cat gca gac cac ctc ctg gcc ctg ctc gag agc ccc aag gcc ctg acc	497
His Ala Asp His Leu Leu Ala Leu Leu Glu Ser Pro Lys Ala Leu Thr	
125 130 135	
ccg ggc ctg agc tgg ctg ctg cag agg atg cag gcc cgg gct gcc ggc	545
Pro Gly Leu Ser Trp Leu Leu Gln Arg Met Gln Ala Arg Ala Ala Gly	
140 145 150	
cag acc ccc aag acg gcc tgc gta gat atc cct cag ctg ctg gag gag	593
Gln Thr Pro Lys Thr Ala Cys Val Asp Ile Pro Gln Leu Leu Glu Glu	
155 160 165	
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Ala Val Gly Ala Gly Ala Pro Gly Ser Ala Gly Gly Val Leu Ala Ala	
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ctg ctg gac cat gtc agg agc ggg tct tgc ttc cac gcc ttg ccg agc	689
Leu Leu Asp His Val Arg Ser Gly Ser Cys Phe His Ala Leu Pro Ser	
190 195 200	
cct cag tac ttc gtg gac ttt gtg ttc cag cag cac agc agc gag gtc	737
Pro Gln Tyr Phe Val Asp Phe Val Phe Gln Gln His Ser Ser Glu Val	
205 210 215	
cct atg acg ctg gcc gag ctg tca gcc ttg atg cag cgc ctg ggg gtg	785
Pro Met Thr Leu Ala Glu Leu Ser Ala Leu Met Gln Arg Leu Gly Val	
220 225 230	
ggc agg gag gcc cac agt gac cac agt cat cgg cac agg gga gcc agc	833
Gly Arg Glu Ala His Ser Asp His Ser His Arg His Arg Gly Ala Ser	
235 240 245	
agc cgg gac cct gtg ccc ctc atc agc tcc agc aac agc tcc agt gtg	881
Ser Arg Asp Pro Val Pro Leu Ile Ser Ser Ser Asn Ser Ser Ser Val	
250 255 260 265	

tgg gac acg gta tgc ctg agt gcc agg gac gtg atg gct gca tat gga	929
Trp Asp Thr Val Cys Leu Ser Ala Arg Asp Val Met Ala Ala Tyr Gly	
270 275 280	
ctg tcg gaa cag gct ggg gtg acc ccg gag gcc tgg gcc caa ctg agc	977
Leu Ser Glu Gln Ala Gly Val Thr Pro Glu Ala Trp Ala Gln Leu Ser	
285 290 295	
cct gcc ctg ctc caa cag cag ctg agt gga gcc tgc acc tcc cag tcc	1025
Pro Ala Leu Leu Gln Gln Leu Ser Gly Ala Cys Thr Ser Gln Ser	
300 305 310	
agg ccc ccc gtc cag gac cag ctc agc cag tca gag agg tat ctg tac	1073
Arg Pro Pro Val Gln Asp Gln Leu Ser Gln Ser Glu Arg Tyr Leu Tyr	
315 320 325	
ggc tcc ctg gcc acg ctg ctc atc tgc ctc tgc gcg gtc ttt ggc ctc	1121
Gly Ser Leu Ala Thr Leu Leu Ile Cys Leu Cys Ala Val Phe Gly Leu	
330 335 340 345	
ctg ctg ctg acc tgc act ggc tgc agg ggg gtc acc cac tac atc ctg	1169
Leu Leu Leu Thr Cys Thr Gly Cys Arg Gly Val Thr His Tyr Ile Leu	
350 355 360	
cag acc ttc ctg agc ctg gca gtg ggt gca ctc act ggg gac gct gtc	1217
Gln Thr Phe Leu Ser Leu Ala Val Gly Ala Leu Thr Gly Asp Ala Val	
365 370 375	
ctg cat ctg acg ccc aag gtg ggg ctg cat aca cac agc gaa gag	1265
Leu His Leu Thr Pro Lys Val Leu Gly Leu His Thr His Ser Glu Glu	
380 385 390	
ggc ctc agc cca cag ccc acc tgg cgc ctc ctg gct atg ctg gcc ggg	1313
Gly Leu Ser Pro Gln Pro Thr Trp Arg Leu Leu Ala Met Leu Ala Gly	
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ctc tac gcc ttc ttc ctg ttt gag aac ctc ttc aat ctc ctg ctg ccc	1361
Leu Tyr Ala Phe Phe Leu Phe Glu Asn Leu Phe Asn Leu Leu Leu Pro	
410 415 420 425	
agg gac ccg gag gac ctg gag gac ggg ccc tgc ggc cac agc agc cat	1409
Arg Asp Pro Glu Asp Leu Glu Asp Gly Pro Cys Gly His Ser Ser His	
430 435 440	
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Ser His Gly His Ser His Gly Val Ser Leu Gln Leu Ala Pro Ser	
445 450 455	
gag ctc cgg cag ccc aag ccc ccc cac gag ggc tcc cgc gca gac ctg	1505
Glu Leu Arg Gln Pro Lys Pro Pro His Glu Gly Ser Arg Ala Asp Leu	
460 465 470	
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Val Ala Glu Glu Ser Pro Glu Leu Leu Asn Pro Glu Pro Arg Arg Leu	
475 480 485	

agc cca gag ttg agg cta ctg ccc tat atg atc act ctg ggc gac gcc	1601
Ser Pro Glu Leu Arg Leu Leu Pro Tyr Met Ile Thr Leu Gly Asp Ala	
490 495 500 505	
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Val His Asn Phe Ala Asp Gly Leu Ala Val Gly Ala Ala Phe Ala Ser	
510 515 520	
tcc tgg aag acc ggg ctg gcc acc tcg ctg gcc gtg ttc tgc cac gag	1697
Ser Trp Lys Thr Gly Leu Ala Thr Ser Leu Ala Val Phe Cys His Glu	
525 530 535	
ttg cca cac gag ctg ggg gac ttc gcc gtc ttg ctg cac gcg ggg ctg	1745
Leu Pro His Glu Leu Gly Asp Phe Ala Ala Leu Leu His Ala Gly Leu	
540 545 550	
tcc gtg cgc caa gca ctg ctg aac ctg gcc tcc gcg ctc acg gcc	1793
Ser Val Arg Gln Ala Leu Leu Asn Leu Ala Ser Ala Leu Thr Ala	
555 560 565	
ttc gct ggt ctc tac gtg gca ctc gcg gtt gga gtc agc gag gag agc	1841
Phe Ala Gly Leu Tyr Val Ala Leu Ala Val Gly Val Ser Glu Glu Ser	
570 575 580 585	
gag gcc tgg atc ctg gca gtg gcc acc ggc ctg ttc ctc tac gta gca	1889
Glu Ala Trp Ile Leu Ala Val Ala Thr Gly Leu Phe Leu Tyr Val Ala	
590 595 600	
ctc tgc gac atg ctc ccg gcg atg ttg aaa gta cgg gac ccg cgg ccc	1937
Leu Cys Asp Met Leu Pro Ala Met Leu Lys Val Arg Asp Pro Arg Pro	
605 610 615	
tgg ctc ctc ttc ctg ctg cac aac gtg ggc ctg ctg ggc ggc tgg acc	1985
Trp Leu Leu Phe Leu Leu His Asn Val Gly Leu Leu Gly Gly Trp Thr	
620 625 630	
gtc ctg ctg ctg tcc ctg tac gag gat gac atc acc ttc tga	2030
Val Leu Leu Leu Ser Leu Tyr Glu Asp Asp Ile Thr Phe	
635 640 645	
taccctgccc tagtcccca ccttgactt aagatccac acctcacaaa cctacagccc	2090
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<400> 34

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35 40 45

Asn Thr Leu Ala Asp Arg Val His Cys Thr Asn Gly Pro Cys Gly Lys
50 55 60

Cys Leu Ser Val Glu Asp Ala Leu Gly Leu Gly Glu Pro Glu Gly Ser
65 70 75 80

Gly Leu Pro Pro Gly Pro Val Leu Glu Ala Arg Tyr Val Ala Arg Leu
85 90 95

Ser Ala Ala Ala Val Leu Tyr Leu Ser Asn Pro Glu Gly Thr Cys Glu
100 105 110

Asp Thr Arg Ala Gly Leu Trp Ala Ser His Ala Asp His Leu Leu Ala
115 120 125

Leu Leu Glu Ser Pro Lys Ala Leu Thr Pro Gly Leu Ser Trp Leu Leu
130 135 140

Gln Arg Met Gln Ala Arg Ala Ala Gly Gln Thr Pro Lys Thr Ala Cys
145 150 155 160

Val Asp Ile Pro Gln Leu Leu Glu Ala Val Gly Ala Gly Ala Pro
165 170 175

Gly Ser Ala Gly Gly Val Leu Ala Ala Leu Leu Asp His Val Arg Ser
180 185 190

Gly Ser Cys Phe His Ala Leu Pro Ser Pro Gln Tyr Phe Val Asp Phe
195 200 205

Val Phe Gln Gln His Ser Ser Glu Val Pro Met Thr Leu Ala Glu Leu
210 215 220

Ser Ala Leu Met Gln Arg Leu Gly Val Gly Arg Glu Ala His Ser Asp
225 230 235 240

His Ser His Arg His Arg Gly Ala Ser Ser Arg Asp Pro Val Pro Leu
245 250 255

Ile Ser Ser Ser Asn Ser Ser Val Trp Asp Thr Val Cys Leu Ser
260 265 270

Ala Arg Asp Val Met Ala Ala Tyr Gly Leu Ser Glu Gln Ala Gly Val
275 280 285

Thr Pro Glu Ala Trp Ala Gln Leu Ser Pro Ala Leu Leu Gln Gln
290 295 300

Leu Ser Gly Ala Cys Thr Ser Gln Ser Arg Pro Pro Val Gln Asp Gln
305 310 315 320

Leu Ser Gln Ser Glu Arg Tyr Leu Tyr Gly Ser Leu Ala Thr Leu Leu
325 330 335

Ile Cys Leu Cys Ala Val Phe Gly Leu Leu Leu Leu Thr Cys Thr Gly
340 345 350

Cys Arg Gly Val Thr His Tyr Ile Leu Gln Thr Phe Leu Ser Leu Ala
355 360 365

Val Gly Ala Leu Thr Gly Asp Ala Val Leu His Leu Thr Pro Lys Val
370 375 380

Leu Gly Leu His Thr His Ser Glu Glu Gly Leu Ser Pro Gln Pro Thr
385 390 395 400

Trp Arg Leu Leu Ala Met Leu Ala Gly Leu Tyr Ala Phe Phe Leu Phe
405 410 415

Glu Asn Leu Phe Asn Leu Leu Pro Arg Asp Pro Glu Asp Leu Glu
420 425 430

Asp Gly Pro Cys Gly His Ser Ser His Ser His Gly Gly His Ser His
435 440 445

Gly Val Ser Leu Gln Leu Ala Pro Ser Glu Leu Arg Gln Pro Lys Pro
450 455 460

Pro His Glu Gly Ser Arg Ala Asp Leu Val Ala Glu Glu Ser Pro Glu
465 470 475 480

Leu Leu Asn Pro Glu Pro Arg Arg Leu Ser Pro Glu Leu Arg Leu Leu
485 490 495

Pro Tyr Met Ile Thr Leu Gly Asp Ala Val His Asn Phe Ala Asp Gly
500 505 510

Leu Ala Val Gly Ala Ala Phe Ala Ser Ser Trp Lys Thr Gly Leu Ala
515 520 525

Thr Ser Leu Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp
530 535 540

Phe Ala Ala Leu Leu His Ala Gly Leu Ser Val Arg Gln Ala Leu Leu
545 550 555 560

Leu Asn Leu Ala Ser Ala Leu Thr Ala Phe Ala Gly Leu Tyr Val Ala
565 570 575

Leu Ala Val Gly Val Ser Glu Glu Ser Glu Ala Trp Ile Leu Ala Val
580 585 590

Ala Thr Gly Leu Phe Leu Tyr Val Ala Leu Cys Asp Met Leu Pro Ala
595 600 605

Met Leu Lys Val Arg Asp Pro Arg Pro Trp Leu Leu Phe Leu Leu His
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Tyr Glu Asp Asp Ile Thr Phe
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gcgcgtccct ctgcgcggca gcccgtcgcg gcccctcaag ggaaagccca ggccagg 477
atg gcc ccg ggt cgc gcg gtg gcc ggg ctc ctg ttg ctg gcg gcc gcc 525
Met Ala Pro Gly Arg Ala Val Ala Gly Leu Leu Leu Leu Ala Ala Ala
1 5 10 15

ggc ctc gga gga gtg gcg gag ggg cca ggg cta gcc ttc agc gag gat 573
Gly Leu Gly Gly Val Ala Glu Gly Pro Gly Leu Ala Phe Ser Glu Asp
20 25 30

gtg ctg agc gtg ttc ggc gcg aat ctg agc ctg tcg gcg gcg cag ctc 621
Val Leu Ser Val Phe Gly Ala Asn Leu Ser Leu Ser Ala Ala Gln Leu
35 40 45

cag cac ttg ctg gag cag atg gga gcc gcc tcc cgc gtg ggc gtc ccg 669
Gln His Leu Leu Glu Gln Met Gly Ala Ala Ser Arg Val Gly Val Pro
50 55 60

gag cct ggc cag ctg cac ttc aac cag tgt tta act gct gaa gag atc 717
Glu Pro Gly Gln Leu His Phe Asn Gln Cys Leu Thr Ala Glu Glu Ile
65 70 75 80

ttt tcc ctt cat ggc ttt tca aat gct acc caa ata acc agc tcc aaa 765
Phe Ser Leu His Gly Phe Ser Asn Ala Thr Gln Ile Thr Ser Ser Lys
85 90 95

ttc tct gtc atc tgt cca gca gtc tta cag caa ttg aac ttt cac cca 813
Phe Ser Val Ile Cys Pro Ala Val Leu Gln Gln Leu Asn Phe His Pro
100 105 110

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Cys Glu Asp Arg Pro Lys His Lys Thr Arg Pro Ser His Ser Glu Val	
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Trp Gly Tyr Gly Phe Leu Ser Val Thr Ile Ile Asn Leu Ala Ser Leu	
130 135 140	
ctc gga ttg att ttg act cca ctg ata aag aaa tct tat ttc cca aag	957
Leu Gly Leu Ile Leu Thr Pro Leu Ile Lys Ser Tyr Phe Pro Lys	
145 150 155 160	
att ttg acc ttt ttt gtg ggg ctg gct att ggg act ctt ttt tca aat	1005
Ile Leu Thr Phe Phe Val Gly Leu Ala Ile Gly Thr Leu Phe Ser Asn	
165 170 175	
gca att ttc caa ctt att cca gag gca ttt gga ttt gat ccc aaa gtc	1053
Ala Ile Phe Gln Leu Ile Pro Glu Ala Phe Gly Phe Asp Pro Lys Val	
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Asp Ser Tyr Val Glu Lys Ala Val Ala Val Phe Gly Gly Phe Tyr Leu	
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Leu Phe Phe Glu Arg Met Leu Lys Met Leu Leu Lys Thr Tyr Gly	
210 215 220	
cag aat ggt cat acc cac ttt gga aat gat aac ttt ggt cct caa gaa	1197
Gln Asn Gly His Thr His Phe Gly Asn Asp Asn Phe Gly Pro Gln Glu	
225 230 235 240	
aaa act cat caa cct aaa gca tta cct gcc atc aat ggt gtg aca tgc	1245
Lys Thr His Gln Pro Lys Ala Leu Pro Ala Ile Asn Gly Val Thr Cys	
245 250 255	
tat gca aat cct gct gtc aca gaa gct aat gga cat atc cat ttt gat	1293
Tyr Ala Asn Pro Ala Val Thr Glu Ala Asn Gly His Ile His Phe Asp	
260 265 270	
aat gtc agt gtg gta tct cta cag gat gga aaa aaa gag cca agt tca	1341
Asn Val Ser Val Val Ser Leu Gln Asp Gly Lys Lys Glu Pro Ser Ser	
275 280 285	
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Cys Thr Cys Leu Lys Gly Pro Lys Leu Ser Glu Ile Gly Thr Ile Ala	
290 295 300	
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Trp Met Ile Thr Leu Cys Asp Ala Leu His Asn Phe Ile Asp Gly Leu	
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Ala Ile Gly Ala Ser Cys Thr Leu Ser Leu Leu Gln Gly Leu Ser Thr	
325 330 335	

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Ser Ile Ala Ile Leu Cys Glu Glu Phe Pro His Glu Leu Gly Asp Phe	
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Val Ile Leu Leu Asn Ala Gly Met Ser Thr Arg Gln Ala Leu Leu Phe	
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aac ttc ctt tct gca tgt tcc tgc tat gtt ggg cta gct ttt ggc att	1629
Asn Phe Leu Ser Ala Cys Ser Cys Tyr Val Gly Leu Ala Phe Gly Ile	
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Leu Val Gly Asn Asn Phe Ala Pro Asn Ile Ile Phe Ala Leu Ala Gly	
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gat atg ctg aga gaa aag gta act gga aga aaa acc gat ttc acc ttc	1773
Asp Met Leu Arg Glu Lys Val Thr Gly Arg Lys Thr Asp Phe Thr Phe	
420 425 430	
ttc atg att cag aat gct gga atg tta act gga ttc aca gcc att cta	1821
Phe Met Ile Gln Asn Ala Gly Met Leu Thr Gly Phe Thr Ala Ile Leu	
435 440 445	
ctc att acc ttg tat gca gga gaa atc gaa ttg gag taa tagaaaatgg	1870
Leu Ile Thr Leu Tyr Ala Gly Glu Ile Glu Leu Glu	
450 455 460	
aagatggtgt tgttaataaa ggcatttaat agataaaaac atctccaaaa aggattttga	1930
agctgatcct atttagttaa aaagataatt ttgcttcaa ctgttagtcc agaaaactaa	1990
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gcacccctca	caaatggcag	aacagtatgt	aaagctggta	acacctcggt	ttcagtgcac	2650
catgtgtttg	ctttgtgaag	gtgaagaata	tgttggttta	gagaaagaaa	ttggatgtaa	2710
ttttatgcaa	tttactttta	aagacaaaca	taactattta	gcagagaata	tttaataaaa	2770
tgcaaaaaca	cagctggact	gctgtacatc	aaggacagat	taactggaaa	acatatgttc	2830
cttatgtgtg	attgagagcc	attcagaaaa	gacttccttt	gtgttcagcc	tatactttc	2890
catatggtat	accttgaaaa	aaattagcac	accatggtta	ttttctacc	ttttataaaa	2950
gacagagcct	gtttactcat	ttagaagata	gagaaaattg	gtctaaaatt	gaacatccta	3010
gattcacact	cccaagtcac	ttaaggtgat	ttgatggtga	ggaaaatgat	tgacaaagcc	3070
caacaatgat	ctcaggaatt	acatttcca	acagacaaa	aatgttttc	atgttagcagc	3130
aatgcagatt	tggtgaatat	ttaatatata	ttttagtatg	tatTCactt	tatgactgac	3190
aattaaaaaa	tattgttgg	ccaaatagta	aacacccttt	tgaaaccatg	aaaaaaa	3246

<210> 36
 <211> 460
 <212> PRT
 <213> Homo sapiens

<400> 36

Met Ala Pro Gly Arg Ala Val Ala Gly Leu Leu Leu Leu Ala Ala Ala
 1 5 10 15

Gly Leu Gly Gly Val Ala Glu Gly Pro Gly Leu Ala Phe Ser Glu Asp
 20 25 30

Val Leu Ser Val Phe Gly Ala Asn Leu Ser Leu Ser Ala Ala Gln Leu
 35 40 45

Gln His Leu Leu Glu Gln Met Gly Ala Ala Ser Arg Val Gly Val Pro
 50 55 60

Glu Pro Gly Gln Leu His Phe Asn Gln Cys Leu Thr Ala Glu Glu Ile
 65 70 75 80

Phe Ser Leu His Gly Phe Ser Asn Ala Thr Gln Ile Thr Ser Ser Lys
 85 90 95

Phe Ser Val Ile Cys Pro Ala Val Leu Gln Gln Leu Asn Phe His Pro
 100 105 110

Cys Glu Asp Arg Pro Lys His Lys Thr Arg Pro Ser His Ser Glu Val
115 120 125

Trp Gly Tyr Gly Phe Leu Ser Val Thr Ile Ile Asn Leu Ala Ser Leu
130 135 140

Leu Gly Leu Ile Leu Thr Pro Leu Ile Lys Lys Ser Tyr Phe Pro Lys
145 150 155 160

Ile Leu Thr Phe Phe Val Gly Leu Ala Ile Gly Thr Leu Phe Ser Asn
165 170 175

Ala Ile Phe Gln Leu Ile Pro Glu Ala Phe Gly Phe Asp Pro Lys Val
180 185 190

Asp Ser Tyr Val Glu Lys Ala Val Ala Val Phe Gly Gly Phe Tyr Leu
195 200 205

Leu Phe Phe Glu Arg Met Leu Lys Met Leu Leu Lys Thr Tyr Gly
210 215 220

Gln Asn Gly His Thr His Phe Gly Asn Asp Asn Phe Gly Pro Gln Glu
225 230 235 240

Lys Thr His Gln Pro Lys Ala Leu Pro Ala Ile Asn Gly Val Thr Cys
245 250 255

Tyr Ala Asn Pro Ala Val Thr Glu Ala Asn Gly His Ile His Phe Asp
260 265 270

Asn Val Ser Val Val Ser Leu Gln Asp Gly Lys Lys Glu Pro Ser Ser
275 280 285

Cys Thr Cys Leu Lys Gly Pro Lys Leu Ser Glu Ile Gly Thr Ile Ala
290 295 300

Trp Met Ile Thr Leu Cys Asp Ala Leu His Asn Phe Ile Asp Gly Leu
305 310 315 320

Ala Ile Gly Ala Ser Cys Thr Leu Ser Leu Leu Gln Gly Leu Ser Thr
325 330 335

Ser Ile Ala Ile Leu Cys Glu Glu Phe Pro His Glu Leu Gly Asp Phe
 340 345 350

Val Ile Leu Leu Asn Ala Gly Met Ser Thr Arg Gln Ala Leu Leu Phe
 355 360 365

Asn Phe Leu Ser Ala Cys Ser Cys Tyr Val Gly Leu Ala Phe Gly Ile
 370 375 380

Leu Val Gly Asn Asn Phe Ala Pro Asn Ile Ile Phe Ala Leu Ala Gly
 385 390 395 400

Gly Met Phe Leu Tyr Ile Ser Leu Ala Asp Met Phe Pro Glu Met Asn
 405 410 415

Asp Met Leu Arg Glu Lys Val Thr Gly Arg Lys Thr Asp Phe Thr Phe
 420 425 430

Phe Met Ile Gln Asn Ala Gly Met Leu Thr Gly Phe Thr Ala Ile Leu
 435 440 445

Leu Ile Thr Leu Tyr Ala Gly Glu Ile Glu Leu Glu
 450 455 460

<210> 37
 <211> 1895
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (106) .. (1725)

<400> 37
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ataggagcca gaacctgagc ccctaagcca ttcccctcac caatg atg ggg tcc cca 117
 Met Gly Ser Pro
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gtg agt cat ctg ctg gcc ggc ttc tgt gtg tgg gtc ttg ggc tgg 165
 Val Ser His Leu Leu Ala Gly Phe Cys Val Trp Val Val Leu Gly Trp
 5 10 15 20

gta ggg ggc tca gtc ccc aac ctg ggc cct gct gag cag gag cag aac	213
Val Gly Gly Ser Val Pro Asn Leu Gly Pro Ala Glu Gln Glu Gln Asn	
25 30 35	
cat tac ctg gcc cag ctg ttt ggc ctg tac ggc gag aat ggg acg ctg	261
His Tyr Leu Ala Gln Leu Phe Gly Leu Tyr Gly Glu Asn Gly Thr Leu	
40 45 50	
act gca ggg ggc ttg gcg cgg ctt ctc cac agc ctg ggg cta ggc cga	309
Thr Ala Gly Gly Leu Ala Arg Leu Leu His Ser Leu Gly Leu Gly Arg	
55 60 65	
gtt cag ggg ctt cgc ctg gga cag cat ggg cct ctg act gga cgg gct	357
Val Gln Gly Leu Arg Leu Gly Gln His Gly Pro Leu Thr Gly Arg Ala	
70 75 80	
gca tcc cca gct gca gac aat tcc aca cac agg cca cag aac cct gag	405
Ala Ser Pro Ala Ala Asp Asn Ser Thr His Arg Pro Gln Asn Pro Glu	
85 90 95 100	
ctg agt gtg gat gtc tgg gca ggg atg cct ctg ggt ccc tca ggg tgg	453
Leu Ser Val Asp Val Trp Ala Gly Met Pro Leu Gly Pro Ser Gly Trp	
105 110 115	
ggt gac ctg gaa gag tca aag gcc cct cac cta ccc cgt ggg cca gcc	501
Gly Asp Leu Glu Glu Ser Lys Ala Pro His Leu Pro Arg Gly Pro Ala	
120 125 130	
ccc tcg ggc ctg gac ctc ctt cac agg ctt ctg ttg ctg gac cac tca	549
Pro Ser Gly Leu Asp Leu Leu His Arg Leu Leu Leu Asp His Ser	
135 140 145	
ttg gct gac cac ctg aat gag gat tgt ctg aac ggc tcc cag ctg ctg	597
Leu Ala Asp His Leu Asn Glu Asp Cys Leu Asn Gly Ser Gln Leu Leu	
150 155 160	
gtc aat ttt ggc ttg agc ccc gct gct cct ctg acc cct cgt cag ttt	645
Val Asn Phe Gly Leu Ser Pro Ala Ala Pro Leu Thr Pro Arg Gln Phe	
165 170 175 180	
gct ctg ctg tgc cca gcc ctg ctt tat cag atc gac agc cgc gtc tgc	693
Ala Leu Leu Cys Pro Ala Leu Leu Tyr Gln Ile Asp Ser Arg Val Cys	
185 190 195	
atc ggc gct ccg gcc cct gca ccc cca ggg gat cta cta tct gcc ctg	741
Ile Gly Ala Pro Ala Pro Ala Pro Pro Gly Asp Leu Leu Ser Ala Leu	
200 205 210	
ctt cag agt gcc ctg gca gtc ctg ttg ctc agc ctc cct tct ccc cta	789
Leu Gln Ser Ala Leu Ala Val Leu Leu Leu Ser Leu Pro Ser Pro Leu	
215 220 225	
tcc ctg ctg ctg cgg ctc ctg gga cct cgt cta cta cgg ccc ttg	837
Ser Leu Leu Leu Arg Leu Leu Gly Pro Arg Leu Leu Arg Pro Leu	
230 235 240	

ctg ggc ttc ctg ggg gcc ctg gcg gtg ggc act ctt tgt ggg gat gca	885
Leu Gly Phe Leu Gly Ala Leu Ala Val Gly Thr Leu Cys Gly Asp Ala	
245 250 255 260	
ctg cta cat ctg cta ccg cat gca caa gaa ggg cgg cac gca gga cct	933
Leu Leu His Leu Leu Pro His Ala Gln Glu Gly Arg His Ala Gly Pro	
265 270 275	
ggc gga cta cca gag aag gac ctg ggc ccg ggg ctg tca gtg ctc gga	981
Gly Gly Leu Pro Glu Lys Asp Leu Gly Pro Gly Leu Ser Val Leu Gly	
280 285 290	
ggc ctc ttc ctg ctc ttt gtg ctg gag aac atg ctg ggg ctt ttg cgg	1029
Gly Leu Phe Leu Leu Phe Val Leu Glu Asn Met Leu Gly Leu Leu Arg	
295 300 305	
cac cga ggg ctc agg cca aga tgc tgc agg cga aaa cga agg aat ctc	1077
His Arg Gly Leu Arg Pro Arg Cys Cys Arg Arg Lys Arg Arg Asn Leu	
310 315 320	
gaa aca cgc aac ttg gat ccg gag aat ggc agt ggg atg gcc ctt cag	1125
Glu Thr Arg Asn Leu Asp Pro Glu Asn Gly Ser Gly Met Ala Leu Gln	
325 330 335 340	
ccc cta cag gca gct cca gag cca ggg gct cag ggc cag agg gag aag	1173
Pro Leu Gln Ala Ala Pro Glu Pro Gly Ala Gln Gly Gln Arg Glu Lys	
345 350 355	
aac agc cag cac cca cca gct ctg gcc cct cct ggg cac caa ggc cac	1221
Asn Ser Gln His Pro Pro Ala Leu Ala Pro Pro Gly His Gln Gly His	
360 365 370	
agt cat ggg cac cag ggt ggc act gat atc acg tgg atg gtc ctc ctg	1269
Ser His Gly His Gln Gly Thr Asp Ile Thr Trp Met Val Leu Leu	
375 380 385	
gga gat ggt cta cac aac ctc act gat ggg ctg gcc ata ggt gct gcc	1317
Gly Asp Gly Leu His Asn Leu Thr Asp Gly Leu Ala Ile Gly Ala Ala	
390 395 400	
ttc tct gat ggc ttc tcc agc ggc ctc agt acc acc tta gcg gtc ttc	1365
Phe Ser Asp Gly Phe Ser Ser Gly Leu Ser Thr Thr Leu Ala Val Phe	
405 410 415 420	
tgc cat gag ctg ccc cac gaa ctg ggt gac ttt gcc atg ctg ctc cag	1413
Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Met Leu Leu Gln	
425 430 435	
tca ggg ctg tcc ttt cgg cgg ctg ctg ctg agc ctc gtg tct gga	1461
Ser Gly Leu Ser Phe Arg Arg Leu Leu Leu Ser Leu Val Ser Gly	
440 445 450	
gcc ctg gga ttg ggg ggt gca gtc ctg ggg gtg ggg ctc agc ctg ggc	1509
Ala Leu Gly Leu Gly Gly Ala Val Leu Gly Val Gly Leu Ser Leu Gly	
455 460 465	

cct gtc ccc ctc act ccc tgg gtg ttt ggg gtc act gct ggg gtc ttc	1557
Pro Val Pro Leu Thr Pro Trp Val Phe Gly Val Thr Ala Gly Val Phe	
470 475 480	
cct tat gtg gcc ctt gtg gac atg cta cca gcc ctg ctt cgt cct ccg	1605
Leu Tyr Val Ala Leu Val Asp Met Leu Pro Ala Leu Leu Arg Pro Pro	
485 490 495 500	
gag ccc ctg cct acg ccc cat gtg ctc ctg cag ggg ctg ggg ctg ctg	1653
Glu Pro Leu Pro Thr Pro His Val Leu Leu Gln Gly Leu Gly Leu Leu	
505 510 515	
ctg ggg ggc ggc ctc atg ctt gcc ata acc ctg ctg gag gag cggttgc	1701
Leu Gly Gly Leu Met Leu Ala Ile Thr Leu Leu Glu Glu Arg Leu	
520 525 530	
ctg ccc gtg acc act gag ggc tga tggggccagt ggaaagggtt cgggttgc	1755
Leu Pro Val Thr Thr Glu Gly	
535	
ttcctccccc ccaaccacag gaatggaggc gggacacagg gccagtagga gcaataggat	1815
tttaataaac agaaccatc caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa	1875
aaaaaaaaaa aaaaaaaaaa	1895

<210> 38
 <211> 539
 <212> PRT
 <213> Homo sapiens

<400> 38

Met Gly Ser Pro Val Ser His Leu Leu Ala Gly Phe Cys Val Trp Val	
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Val Leu Gly Trp Val Gly Ser Val Pro Asn Leu Gly Pro Ala Glu	
20 25 30	

Gln Glu Gln Asn His Tyr Leu Ala Gln Leu Phe Gly Leu Tyr Gly Glu	
35 40 45	

Asn Gly Thr Leu Thr Ala Gly Gly Leu Ala Arg Leu Leu His Ser Leu	
50 55 60	

Gly Leu Gly Arg Val Gln Gly Leu Arg Leu Gly Gln His Gly Pro Leu	
65 70 75 80	

Thr Gly Arg Ala Ala Ser Pro Ala Ala Asp Asn Ser Thr His Arg Pro	
85 90 95	

Gln Asn Pro Glu Leu Ser Val Asp Val Trp Ala Gly Met Pro Leu Gly
100 105 110

Pro Ser Gly Trp Gly Asp Leu Glu Glu Ser Lys Ala Pro His Leu Pro
115 120 125

Arg Gly Pro Ala Pro Ser Gly Leu Asp Leu Leu His Arg Leu Leu Leu
130 135 140

Leu Asp His Ser Leu Ala Asp His Leu Asn Glu Asp Cys Leu Asn Gly
145 150 155 160

Ser Gln Leu Leu Val Asn Phe Gly Leu Ser Pro Ala Ala Pro Leu Thr
165 170 175

Pro Arg Gln Phe Ala Leu Leu Cys Pro Ala Leu Leu Tyr Gln Ile Asp
180 185 190

Ser Arg Val Cys Ile Gly Ala Pro Ala Pro Ala Pro Pro Gly Asp Leu
195 200 205

Leu Ser Ala Leu Leu Gln Ser Ala Leu Ala Val Leu Leu Leu Ser Leu
210 215 220

Pro Ser Pro Leu Ser Leu Leu Leu Arg Leu Leu Gly Pro Arg Leu
225 230 235 240

Leu Arg Pro Leu Leu Gly Phe Leu Gly Ala Leu Ala Val Gly Thr Leu
245 250 255

Cys Gly Asp Ala Leu Leu His Leu Leu Pro His Ala Gln Glu Gly Arg
260 265 270

His Ala Gly Pro Gly Gly Leu Pro Glu Lys Asp Leu Gly Pro Gly Leu
275 280 285

Ser Val Leu Gly Gly Leu Phe Leu Leu Phe Val Leu Glu Asn Met Leu
290 295 300

Gly Leu Leu Arg His Arg Gly Leu Arg Pro Arg Cys Cys Arg Arg Lys
305 310 315 320

Arg Arg Asn Leu Glu Thr Arg Asn Leu Asp Pro Glu Asn Gly Ser Gly
325 330 335

Met Ala Leu Gln Pro Leu Gln Ala Ala Pro Glu Pro Gly Ala Gln Gly
340 345 350

Gln Arg Glu Lys Asn Ser Gln His Pro Pro Ala Leu Ala Pro Pro Gly
355 360 365

His Gln Gly His Ser His Gly His Gln Gly Gly Thr Asp Ile Thr Trp
370 375 380

Met Val Leu Leu Gly Asp Gly Leu His Asn Leu Thr Asp Gly Leu Ala
385 390 395 400

Ile Gly Ala Ala Phe Ser Asp Gly Phe Ser Ser Gly Leu Ser Thr Thr
405 410 415

Leu Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala
420 425 430

Met Leu Leu Gln Ser Gly Leu Ser Phe Arg Arg Leu Leu Leu Ser
435 440 445

Leu Val Ser Gly Ala Leu Gly Leu Gly Gly Ala Val Leu Gly Val Gly
450 455 460

Leu Ser Leu Gly Pro Val Pro Leu Thr Pro Trp Val Phe Gly Val Thr
465 470 475 480

Ala Gly Val Phe Leu Tyr Val Ala Leu Val Asp Met Leu Pro Ala Leu
485 490 495

Leu Arg Pro Pro Glu Pro Leu Pro Thr Pro His Val Leu Leu Gln Gly
500 505 510

Leu Gly Leu Leu Leu Gly Gly Leu Met Leu Ala Ile Thr Leu Leu
515 520 525

Glu Glu Arg Leu Leu Pro Val Thr Thr Glu Gly
530 535

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<211> 2636
<212> DNA
<213> *Homo sapiens*

<220>
<221> CDS
<222> (222) .. (2186)

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 atctttcttc tgaagaaatt cctttggta caagttacc ccataaacgg caacacactc 180
 acctccatcc aagacagact caaggtggag gaagcgtgga a atg tgc ttc cgg aca 236
 Met Cys Phe Arg Thr
 1 5
 aag ctc tca gta tcc tgg gtg cca ttg ttt ctt cta ctc agc cgt gtt 284
 Lys Leu Ser Val Ser Trp Val Pro Leu Phe Leu Leu Leu Ser Arg Val
 10 15 20
 ttt tct act gag aca gac aaa ccc tca gcc cag gac agc aga agc cgt 332
 Phe Ser Thr Glu Thr Asp Lys Pro Ser Ala Gln Asp Ser Arg Ser Arg
 25 30 35
 ggg agt tca ggc caa ccg gca gac ctg cta cag gtt ctc tct gct ggt 380
 Gly Ser Ser Gly Gln Pro Ala Asp Leu Leu Gln Val Leu Ser Ala Gly
 40 45 50
 gac cac cca ccc cac aac cac tca aga agc ctc atc aaa aca ttg ttg 428
 Asp His Pro Pro His Asn His Ser Arg Ser Leu Ile Lys Thr Leu Leu
 55 60 65
 gag aaa act ggg tgc cca cgg agg aga aac gga atg caa gga gat tgc 476
 Glu Lys Thr Gly Cys Pro Arg Arg Asn Gly Met Gln Gly Asp Cys
 70 75 80 85
 aat ctg tgc ttt gaa cca gat gca cta tta cta ata gct gga gga aat 524
 Asn Leu Cys Phe Glu Pro Asp Ala Leu Leu Leu Ile Ala Gly Gly Asn
 90 95 100
 ttt gaa gat cag ctt aga gaa gaa gtg gtc cag aga gtt tct ctt ctc 572
 Phe Glu Asp Gln Leu Arg Glu Glu Val Val Gln Arg Val Ser Leu Leu
 105 110 115
 ctt ctc tat tac att att cat cag gaa gag atc tgt tct tca aag ctc 620
 Leu Leu Tyr Tyr Ile Ile His Gln Glu Glu Ile Cys Ser Ser Lys Leu
 120 125 130

aac atg agt aat aaa gag tat aaa ttt tac cta cac agc cta ctg agc	668
Asn Met Ser Asn Lys Glu Tyr Lys Phe Tyr Leu His Ser Leu Leu Ser	
135 140 145	
ctc agg cag gat gaa gat tcc tct ttc ctt tca cag aat gag aca gaa	716
Leu Arg Gln Asp Glu Asp Ser Ser Phe Leu Ser Gln Asn Glu Thr Glu	
150 155 160 165	
gat atc ttg gct ttc acc agg cag tac ttt gac act tct caa agc cag	764
Asp Ile Leu Ala Phe Thr Arg Gln Tyr Phe Asp Thr Ser Gln Ser Gln	
170 175 180	
tgt atg gaa acc aaa acg ctg cag aaa aaa tct gga ata gtg agc agt	812
Cys Met Glu Thr Lys Thr Leu Gln Lys Lys Ser Gly Ile Val Ser Ser	
185 190 195	
gaa ggt gct aat gaa agt acg ctt cct cag ttg gca gcc atg atc att	860
Glu Gly Ala Asn Glu Ser Thr Leu Pro Gln Leu Ala Ala Met Ile Ile	
200 205 210	
act ttg tcc ctc cag ggt gtt tgt ctg gga caa gga aac ttg cct tcc	908
Thr Leu Ser Leu Gln Gly Val Cys Leu Gly Gln Asn Leu Pro Ser	
215 220 225	
cca gac tac ttt aca gaa tat att ttc agt tcc ttg aat cgt acg aat	956
Pro Asp Tyr Phe Thr Glu Tyr Ile Phe Ser Ser Leu Asn Arg Thr Asn	
230 235 240 245	
acc ctc cgc cta tca gaa cta gac caa ctc ctc aac act ctc tgg acc	1004
Thr Leu Arg Leu Ser Glu Leu Asp Gln Leu Leu Asn Thr Leu Trp Thr	
250 255 260	
aga agt act tgt atc aaa aat gag aaa atc cat caa ttt caa agg aaa	1052
Arg Ser Thr Cys Ile Lys Asn Glu Lys Ile His Gln Phe Gln Arg Lys	
265 270 275	
caa aac aac ata ata acc cat gat cag ggc tat tct aat ttc tct tca	1100
Gln Asn Asn Ile Ile Thr His Asp Gln Gly Tyr Ser Asn Phe Ser Ser	
280 285 290	
tcc atg gaa aaa gag tct gag gat ggt cca gtt tcc tgg gat cag acc	1148
Ser Met Glu Lys Glu Ser Glu Asp Gly Pro Val Ser Trp Asp Gln Thr	
295 300 305	
tgc ttc tct gct agg cag ctg gtg gag ata ttt cta cag aag ggc ctc	1196
Cys Phe Ser Ala Arg Gln Leu Val Glu Ile Phe Leu Gln Lys Gly Leu	
310 315 320 325	
tca ctc att tct aag gag gac ttt aag caa atg agt cca ggg atc atc	1244
Ser Leu Ile Ser Lys Glu Asp Phe Lys Gln Met Ser Pro Gly Ile Ile	
330 335 340	
cag cag ctc ctc agc tgc tcc cac tta ccc aag gac caa caa gca	1292
Gln Gln Leu Leu Ser Cys Ser Cys His Leu Pro Lys Asp Gln Gln Ala	
345 350 355	

aag ctg cca cct acc act ctg gag aaa tac ggc tac agc acg gtg gct	1340
Lys Leu Pro Pro Thr Thr Leu Glu Lys Tyr Gly Tyr Ser Thr Val Ala	
360 365 370	
gtc acc ctt ctc aca ctg ggc tcc atg ctg ggg aca gcg ctg gtc ctt	1388
Val Thr Leu Leu Thr Leu Gly Ser Met Leu Gly Thr Ala Leu Val Leu	
375 380 385	
ttc cat agc tgt gag gag aac tac agg ctt atc tta cag ctg ttt gtg	1436
Phe His Ser Cys Glu Glu Asn Tyr Arg Leu Ile Leu Gln Leu Phe Val	
390 395 400 405	
ggc ttg gcc gtc ggg aca ctg tct ggg gac gct ctg ctc cac ctt atc	1484
Gly Leu Ala Val Gly Thr Leu Ser Gly Asp Ala Leu Leu His Leu Ile	
410 415 420	
cct cag gtt ctt ggt tta cat aag cag gaa gcc cca gaa ttt ggg cat	1532
Pro Gln Val Leu Gly Leu His Lys Gln Glu Ala Pro Glu Phe Gly His	
425 430 435	
ttc cat gaa agc aaa ggt cat att tgg aaa ctg atg gga tta att gga	1580
Phe His Glu Ser Lys Gly His Ile Trp Lys Leu Met Gly Leu Ile Gly	
440 445 450	
ggc atc cat gga ttt ttc ttg ata gaa aaa tgt ttt att ctt ctt gta	1628
Gly Ile His Gly Phe Phe Leu Ile Glu Lys Cys Phe Ile Leu Leu Val	
455 460 465	
tca cca aat gac aag aaa agc cca gaa gat tca cag gca gct gaa atg	1676
Ser Pro Asn Asp Lys Lys Ser Pro Glu Asp Ser Gln Ala Ala Glu Met	
470 475 480 485	
cct ata ggc agt atg aca gcc tcc aac aga aaa tgt aaa gcc att agc	1724
Pro Ile Gly Ser Met Thr Ala Ser Asn Arg Lys Cys Lys Ala Ile Ser	
490 495 500	
ttg tta gca atc atg att ctg gtt ggg gac agc ctg cat aat ttt gca	1772
Leu Leu Ala Ile Met Ile Leu Val Gly Asp Ser Leu His Asn Phe Ala	
505 510 515	
gat ggc cta gcc ata gga gca gcc ttc tca tca tca tcc gag tca gga	1820
Asp Gly Leu Ala Ile Gly Ala Ala Phe Ser Ser Ser Glu Ser Gly	
520 525 530	
gtg acc act acg att gct atc ttg tgt cat gaa atc cca cat gaa atg	1868
Val Thr Thr Ile Ala Ile Leu Cys His Glu Ile Pro His Glu Met	
535 540 545	
gga gac ttt gcc gtg ctc tta agc tct gga ctt tct atg aag act gcc	1916
Gly Asp Phe Ala Val Leu Leu Ser Ser Gly Leu Ser Met Lys Thr Ala	
550 555 560 565	
atc ctg atg aat ttt ata agc tcc cta act gcc ttc atg gga tta tac	1964
Ile Leu Met Asn Phe Ile Ser Ser Leu Thr Ala Phe Met Gly Leu Tyr	
570 575 580	

att ggc ctt tcc gtg tca gct gat cca tgt gtt caa gac tgg atc ttc Ile Gly Leu Ser Val Ser Ala Asp Pro Cys Val Gln Asp Trp Ile Phe 585 590 595	2012
aca gtc act gct ggg atg ttc tta tat tta tcc ttg gtt gaa atg ctt Thr Val Thr Ala Gly Met Phe Leu Tyr Leu Ser Leu Val Glu Met Leu 600 605 610	2060
cct gaa atg act cat gtt caa aca caa cga ccc tgg atg atg ttt ctc Pro Glu Met Thr His Val Gln Thr Gln Arg Pro Trp Met Met Phe Leu 615 620 625	2108
ctg caa aac ttt gga ttg atc cta ggt tgg ctt tct ctc ctg ctc ttg Leu Gln Asn Phe Gly Leu Ile Leu Gly Trp Leu Ser Leu Leu Leu 630 635 640 645	2156
gct ata tat gag caa aat att aaa ata taa gtgaggatct tcaacatctt Ala Ile Tyr Glu Gln Asn Ile Lys Ile 650	2206
tcaaaaatgc atttatatacg tcttactttg tttctttcat tgcactctat aatgattttt aaatattaagaa ttttttatct taggcaaagt gtgtctctt caattcatta acttattaat	2266 2326
tttataatgc agttttatctt ttggaaacat ataaatatca gactgtcctt aattgaaatt	2386
ttgtctttgg ttccaaacac catgatgaag ctcttgcttt taaaaagta gtttagtaat	2446
tctgcatgaa ttttagtaaa cttaaaaaaa tagattttt ccctaagaaa gaatgtttgt	2506
agaatttaaa gtggacagat gcctgttggg gtaaaatcaa ctgcaacttt ttgatgttaa	2566
ttttttccc tgtgcaatta taaactataa gcaagttaa tgacaagcaa atgtaataaa	2626
gactagtttt	2636

<210> 40
 <211> 654
 <212> PRT
 <213> Homo sapiens

 <400> 40

Met Cys Phe Arg Thr Lys Leu Ser Val Ser Trp Val Pro Leu Phe Leu
 1 5 10 15

Leu Leu Ser Arg Val Phe Ser Thr Glu Thr Asp Lys Pro Ser Ala Gln
 20 25 30

Asp Ser Arg Ser Arg Gly Ser Ser Gly Gln Pro Ala Asp Leu Leu Gln
 35 40 45

Val Leu Ser Ala Gly Asp His Pro Pro His Asn His Ser Arg Ser Leu
50 55 60

Ile Lys Thr Leu Leu Glu Lys Thr Gly Cys Pro Arg Arg Arg Asn Gly
65 70 75 80

Met Gln Gly Asp Cys Asn Leu Cys Phe Glu Pro Asp Ala Leu Leu Leu
85 90 95

Ile Ala Gly Gly Asn Phe Glu Asp Gln Leu Arg Glu Glu Val Val Gln
100 105 110

Arg Val Ser Leu Leu Leu Tyr Tyr Ile Ile His Gln Glu Glu Ile
115 120 125

Cys Ser Ser Lys Leu Asn Met Ser Asn Lys Glu Tyr Lys Phe Tyr Leu
130 135 140

His Ser Leu Leu Ser Leu Arg Gln Asp Glu Asp Ser Ser Phe Leu Ser
145 150 155 160

Gln Asn Glu Thr Glu Asp Ile Leu Ala Phe Thr Arg Gln Tyr Phe Asp
165 170 175

Thr Ser Gln Ser Gln Cys Met Glu Thr Lys Thr Leu Gln Lys Lys Ser
180 185 190

Gly Ile Val Ser Ser Glu Gly Ala Asn Glu Ser Thr Leu Pro Gln Leu
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Ala Ala Met Ile Ile Thr Leu Ser Leu Gln Gly Val Cys Leu Gly Gln
210 215 220

Gly Asn Leu Pro Ser Pro Asp Tyr Phe Thr Glu Tyr Ile Phe Ser Ser
225 230 235 240

Leu Asn Arg Thr Asn Thr Leu Arg Leu Ser Glu Leu Asp Gln Leu Leu
245 250 255

Asn Thr Leu Trp Thr Arg Ser Thr Cys Ile Lys Asn Glu Lys Ile His
260 265 270

Gln Phe Gln Arg Lys Gln Asn Asn Ile Ile Thr His Asp Gln Gly Tyr
275 280 285

Ser Asn Phe Ser Ser Ser Met Glu Lys Glu Ser Glu Asp Gly Pro Val
290 295 300

Ser Trp Asp Gln Thr Cys Phe Ser Ala Arg Gln Leu Val Glu Ile Phe
305 310 315 320

Leu Gln Lys Gly Leu Ser Leu Ile Ser Lys Glu Asp Phe Lys Gln Met
325 330 335

Ser Pro Gly Ile Ile Gln Gln Leu Leu Ser Cys Ser Cys His Leu Pro
340 345 350

Lys Asp Gln Gln Ala Lys Leu Pro Pro Thr Thr Leu Glu Lys Tyr Gly
355 360 365

Tyr Ser Thr Val Ala Val Thr Leu Leu Thr Leu Gly Ser Met Leu Gly
370 375 380

Thr Ala Leu Val Leu Phe His Ser Cys Glu Glu Asn Tyr Arg Leu Ile
385 390 395 400

Leu Gln Leu Phe Val Gly Leu Ala Val Gly Thr Leu Ser Gly Asp Ala
405 410 415

Leu Leu His Leu Ile Pro Gln Val Leu Gly Leu His Lys Gln Glu Ala
420 425 430

Pro Glu Phe Gly His Phe His Glu Ser Lys Gly His Ile Trp Lys Leu
435 440 445

Met Gly Leu Ile Gly Gly Ile His Gly Phe Phe Leu Ile Glu Lys Cys
450 455 460

Phe Ile Leu Leu Val Ser Pro Asn Asp Lys Lys Ser Pro Glu Asp Ser
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Gln Ala Ala Glu Met Pro Ile Gly Ser Met Thr Ala Ser Asn Arg Lys
485 490 495

Cys Lys Ala Ile Ser Leu Leu Ala Ile Met Ile Leu Val Gly Asp Ser
 500 505 510

Leu His Asn Phe Ala Asp Gly Leu Ala Ile Gly Ala Ala Phe Ser Ser
 515 520 525

Ser Ser Glu Ser Gly Val Thr Thr Ile Ala Ile Leu Cys His Glu
 530 535 540

Ile Pro His Glu Met Gly Asp Phe Ala Val Leu Leu Ser Ser Gly Leu
 545 550 555 560

Ser Met Lys Thr Ala Ile Leu Met Asn Phe Ile Ser Ser Leu Thr Ala
 565 570 575

Phe Met Gly Leu Tyr Ile Gly Leu Ser Val Ser Ala Asp Pro Cys Val
 580 585 590

Gln Asp Trp Ile Phe Thr Val Thr Ala Gly Met Phe Leu Tyr Leu Ser
 595 600 605

Leu Val Glu Met Leu Pro Glu Met Thr His Val Gln Thr Gln Arg Pro
 610 615 620

Trp Met Met Phe Leu Leu Gln Asn Phe Gly Leu Ile Leu Gly Trp Leu
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Pro Cys Pro Gly Cys Gly Met Ala Gly Pro Arg Leu Leu Phe Leu Thr	
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Ala Leu Ala Leu Glu Leu Leu Gly Arg Ala Gly Ser Gln Pro Ala	
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Leu Arg Ser Arg Gly Thr Ala Thr Ala Cys Arg Leu Asp Asn Lys Glu	
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agc gag tcc tgg ggg gct ctg ctg agc gga gag cgg ctg gac acc tgg	246
Ser Glu Ser Trp Gly Ala Leu Leu Ser Gly Glu Arg Leu Asp Thr Trp	
55 60 65	
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Ile Cys Ser Leu Leu Gly Ser Leu Met Val Gly Leu Ser Gly Val Phe	
70 75 80	
ccg ttg ctt gtc att ccc cta gag atg ggg acc atg ctg cgc tca gaa	342
Pro Leu Leu Val Ile Pro Leu Glu Met Gly Thr Met Leu Arg Ser Glu	
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Ala Gly Ala Trp Arg Leu Lys Gln Leu Leu Ser Phe Ala Leu Gly Gly	
105 110 115	
ctc ttg ggc aat gtg ttt ctg cat ctg ctg ccc gaa gcc tgg gcc tac	438
Leu Leu Gly Asn Val Phe Leu His Leu Leu Pro Glu Ala Trp Ala Tyr	
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acg tgc agc gcc agc cct ggt ggt gag ggg cag agc ctg cag cag cag	486
Thr Cys Ser Ala Ser Pro Gly Gly Glu Gly Gln Ser Leu Gln Gln Gln	
135 140 145	
caa cag ctg ggg ctg tgg gtc att gct ggc atc ctg acc ttc ctg gcg	534
Gln Gln Leu Gly Leu Trp Val Ile Ala Gly Ile Leu Thr Phe Leu Ala	
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ttg gag aag atg ttc ctg gac agc aag gag gag ggg acc agc cag gcc	582
Leu Glu Lys Met Phe Leu Asp Ser Lys Glu Glu Gly Thr Ser Gln Ala	
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ccc aac aaa gac ccc act gct gct gcc gca ctc aat gga ggc cac	630
Pro Asn Lys Asp Pro Thr Ala Ala Ala Leu Asn Gly Gly His	
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tgt ctg gcc cag ccg gct gca gag ccc ggc ctc ggt gcc gtg gtc cgg	678
Cys Leu Ala Gln Pro Ala Ala Glu Pro Gly Leu Gly Ala Val Val Arg	
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agc atc aaa gtc agc ggc tac ctc aac ctg ctg gcc aac acc atc gat	726
Ser Ile Lys Val Ser Gly Tyr Leu Asn Leu Leu Ala Asn Thr Ile Asp	
215 220 225	

aac ttc acc cac ggg ctg gct gtg gct gcc agc ttc ctt gtg agc aag	774
Asn Phe Thr His Gly Leu Ala Val Ala Ala Ser Phe Leu Val Ser Lys	
230 235 240	
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Lys Ile Gly Leu Leu Thr Thr Met Ala Ile Leu Leu His Glu Ile Pro	
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cat gag gtg ggc gac ttt gcc atc ctg ctc cg ^g gcc ggc ttt gac cga	870
His Glu Val Gly Asp Phe Ala Ile Leu Leu Arg Ala Gly Phe Asp Arg	
265 270 275	
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Trp Ser Ala Ala Lys Leu Gln Leu Ser Thr Ala Leu Gly Gly Leu Leu	
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Gly Ala Gly Phe Ala Ile Cys Thr Gln Ser Pro Lys Gly Val Val Gly	
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Cys Ser Pro Ala Ala Glu Glu Thr Ala Ala Trp Val Leu Pro Phe Thr	
310 315 320	
tct ggc ggc ttt ctc tac atc gcc ttg gtg aac gtg ctc cct gac ctc	1062
Ser Gly Gly Phe Leu Tyr Ile Ala Leu Val Asn Val Leu Pro Asp Leu	
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Leu Glu Glu Asp Pro Trp Arg Ser Leu Gln Gln Leu Leu Leu Leu	
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Cys Ala Gly Ile Val Val Met Val Leu Phe Ser Leu Phe Val Asp	
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<400> 42

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20								25							

Ser	Gln	Pro	Ala	Leu	Arg	Ser	Arg	Gly	Thr	Ala	Thr	Ala	Cys	Arg	Leu
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Asp	Asn	Lys	Glu	Ser	Glu	Ser	Trp	Gly	Ala	Leu	Leu	Ser	Gly	Glu	Arg
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Leu	Asp	Thr	Trp	Ile	Cys	Ser	Leu	Leu	Gly	Ser	Leu	Met	Val	Gly	Leu
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Ser	Gly	Val	Phe	Pro	Leu	Leu	Val	Ile	Pro	Leu	Glu	Met	Gly	Thr	Met
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Leu	Arg	Ser	Glu	Ala	Gly	Ala	Trp	Arg	Leu	Lys	Gln	Leu	Leu	Ser	Phe
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115 120 125

Ala Trp Ala Tyr Thr Cys Ser Ala Ser Pro Gly Gly Glu Gly Gln Ser
130 135 140

Leu Gln Gln Gln Gln Leu Gly Leu Trp Val Ile Ala Gly Ile Leu
145 150 155 160

Thr Phe Leu Ala Leu Glu Lys Met Phe Leu Asp Ser Lys Glu Glu Gly
165 170 175

Thr Ser Gln Ala Pro Asn Lys Asp Pro Thr Ala Ala Ala Ala Leu
180 185 190

Asn Gly Gly His Cys Leu Ala Gln Pro Ala Ala Glu Pro Gly Leu Gly
195 200 205

Ala Val Val Arg Ser Ile Lys Val Ser Gly Tyr Leu Asn Leu Leu Ala
210 215 220

Asn Thr Ile Asp Asn Phe Thr His Gly Leu Ala Val Ala Ala Ser Phe
225 230 235 240

Leu Val Ser Lys Lys Ile Gly Leu Leu Thr Thr Met Ala Ile Leu Leu
245 250 255

His Glu Ile Pro His Glu Val Gly Asp Phe Ala Ile Leu Leu Arg Ala
260 265 270

Gly Phe Asp Arg Trp Ser Ala Ala Lys Leu Gln Leu Ser Thr Ala Leu
275 280 285

Gly Gly Leu Leu Gly Ala Gly Phe Ala Ile Cys Thr Gln Ser Pro Lys
290 295 300

Gly Val Val Gly Cys Ser Pro Ala Ala Glu Glu Thr Ala Ala Trp Val
305 310 315 320

Leu Pro Phe Thr Ser Gly Gly Phe Leu Tyr Ile Ala Leu Val Asn Val
325 330 335

Leu Pro Asp Leu Leu Glu Glu Asp Pro Trp Arg Ser Leu Gln Gln
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Phe Val Asp
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